

IN THE CLAIMS

Claims 1-48 (cancelled)

Claim 49 (Currently Amended): A method for manipulating magnetic particles, comprising the steps of:

- a) providing an electromagnetic chip comprising one or more micro-electromagnetic units on or within or partially within said electromagnetic chip;
- b) contacting a sample comprising magnetic particles with said electromagnetic chip; and
- c) moving said magnetic particles from a first locus on said electromagnetic chip to a second locus on said electromagnetic chip by way of modulating electric currents applied to one or more of said micro-electromagnetic units so as to change the magnetic field distribution of said electromagnetic chip, thereby altering magnetic forces acting on said magnetic particles.

Claim 50 (Currently Amended): The method of claim 49, wherein said magnetic particles comprise at least one moiety, ~~wherein said moiety is optionally~~ linked to said magnetic particle.

Claim 51 (original): The method of claim 50, wherein said link is through linkage molecules, a covalent bond or biological affinity.

Claim 52 (original): The method of claim 50, wherein said moiety is selected from the group consisting of nucleic acid molecules, DNA, RNA, polypeptides, proteins,

carbohydrates, lipids, prokaryotic cells, eukaryotic cells, prions, viruses, parasites, antibodies, lectins or receptors.

Claim 53 (Currently Amended): The method of claim 49, wherein said electromagnetic chip comprises a magnetophoretic ~~magnetophoretic~~ device.

Claim 54 (Currently Amended): The method of claim 49, wherein said electromagnetic chip comprises switching means ~~particle switch~~.

Claim 55 (Currently Amended): The method of claim 49, wherein said electromagnetic unit comprises a core that ~~optionally~~ comprises at least one terminal structure.

Claim 56 (original): The method of claim 49, wherein said electromagnetic chip comprises dipoles.

Claim 57 (New): The method of claim 49, wherein at least one of said one or more micro-electromagnetic units is in a substantially horizontal configuration.

Claim 58 (New): The method of claim 49, wherein at least one of said one or more micro-electromagnetic units is in a substantially vertical configuration.

Claim 59 (New): A method for manipulating magnetic particles, comprising the steps of:

- a) providing an electromagnetic chip comprising a plurality of micro-electromagnetic units on or within or partially within said electromagnetic chip;
- b) contacting a sample comprising magnetic particles with said electromagnetic chip; and
- c) moving said magnetic particles from a first locus on said electromagnetic chip to a second locus on said electromagnetic chip by way of modulating electric currents applied to two or more of said micro-electromagnetic units so as to change the magnetic field distribution of said electromagnetic chip, thereby altering magnetic forces acting on said magnetic particles.

Claim 60 (New): The method of claim 59, wherein said magnetic particles comprise at least one moiety linked to said magnetic particle.

Claim 61 (New): The method of claim 60, wherein said link is through linkage molecules, a covalent bond or biological affinity.

Claim 62 (New): The method of claim 60, wherein said moiety is selected from the group consisting of nucleic acid molecules, DNA, RNA, polypeptides, proteins, carbohydrates, lipids, prokaryotic cells, eukaryotic cells, prions, viruses, parasites, antibodies, lectins or receptors.

Claim 63 (New): The method of claim 59, wherein said electromagnetic chip comprises a magnetophoretic device.

Claim 64 (New): The method of claim 59, wherein said electromagnetic chip comprises switching means.

Claim 65 (New): The method of claim 59, wherein said electromagnetic units comprise a core that comprises at least one terminal structure.

Claim 66 (New): The method of claim 59, wherein said electromagnetic chip comprises dips.

Claim 67 (New): The method of claim 59, wherein at least one of said plurality of micro-electromagnetic units is in a substantially horizontal configuration.

Claim 68 (New): The method of claim 59, wherein at least one of said plurality of micro-electromagnetic units is in a substantially vertical configuration.